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**TECHNICAL WORKING PARTY ON AUTOMATION AND
COMPUTER PROGRAMS**

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**REVISION OF DOCUMENT TGP/7:
EXAMPLE VARIETIES**

Proposal prepared by an expert from France

BACKGROUND

1. Document TGP/7/2 Draft 2, considered by the Technical Committee (TC) at its forty-fifth session, held in Geneva from March 30 to April 1, 2009, indicated that experts from France would develop a document, based on GN 28 "Example varieties", for discussion at the TWP sessions in 2009. However, the Technical Working Party for Vegetables (TWV), held from April 20 to 24, 2009, was less than three weeks after the forty-fifth session of the TC, which meant that it was not feasible to prepare a document for consideration by the TWV in 2009. The TWV noted that it would not be able to review any proposed amendments to GN 28 before the TC considered the approval of document TGP/7/2 in 2010. The TWV noted the importance of example varieties in Test Guidelines for vegetable crops and generally supported the text in GN 28. Therefore, to avoid a delay in the adoption of document TGP/7/2, it proposed that document TGP/7/2 should be adopted in 2010 without amendments to GN 28 and that any proposed amendments should be considered in a future revision of document TGP/7, if appropriate. The Technical Working Party for Agricultural Crops (TWA), at its thirty-eighth session, held in Seoul, Republic of Korea, from August 31 to September 4, 2009, agreed with that proposal and also agreed to add an agenda item to discuss example varieties at its thirty-ninth session (see document TWA/38/17 "Report", paragraph 36).

2. The Technical Working Party for Ornamental Plants and Forest Trees (TWO) and Technical Working Party for Fruit Crops (TWF), at their sessions in 2009, agreed that experts with suggestions concerning the document to be developed on example varieties should send those to Mr. Joël Guiard (France), or to the Office of the Union, which would forward the suggestions to Mr. Guiard. The expert from New Zealand explained that he would raise the matter of example varieties that were a matter of common knowledge, but did not have a denomination.

3. At its forty-sixth session, held in Geneva from March 22 to 24, 2010, the TC agreed that consideration be given to example varieties in a future revision of TGP/7 (document TGP/7/3) (see document TC/46/15 “Report on the Conclusions”, paragraph 31).

4. The TC at its forty-seventh session, held in Geneva from April 4 to 6, 2011, considered the proposal, prepared by an expert from France, as presented in the Annex to this document and the comments of the TWPs in relation to that proposal. The TC agreed that the subject of example varieties would be considered as a possible matter for discussion on the Monday session of the TC, in 2012, “which will be dedicated to a discussion on experiences of members if the Union in measures to improve the efficiency and effectiveness of DUS testing. (see document TC/47/26 “Report on the Conclusions”, paragraphs 62 and 111)

[Annex follows]

ANNEX

PROPOSAL PREPARED BY AN EXPERT FROM FRANCE

Discussion

1. UPOV Test Guidelines are essential tools to achieve harmonization of variety descriptions throughout UPOV members and to take good decisions on Distinctness, Uniformity and Stability (“DUS”).
2. Harmonization is based on different elements:
 - Test design (plant material, number of plants, lay out ...)
 - List of characteristics with states of expression, notes, example varieties ...
 - Explanations of how observations should be made
 - Decision rules on Distinctness, Uniformity and Stability.
3. Since the first Test Guidelines, example varieties for all or some of the states of expression of each characteristic in a Test Guidelines have been considered as an important element for the harmonization of variety descriptions. An example variety for at least some notes in a scale is essential to define more precisely the state of expression related to the corresponding note and, in principle, offers the possibility to compare descriptions established in different environments.

Conditions to be fulfilled to have an efficient set of example varieties across UPOV members

4. The conditions can be listed as follows:
 - (a) Example varieties must well-known across the member states, freely accessible and with plant material available on request by the examination offices;
 - (b) As far as possible, for a given characteristic the set of example varieties must cover the full range of variation known in the species;
 - (c) The expression of a given characteristic must not change too much in relation to the environment; and
 - (d) Considering a set of example varieties for a characteristic, the rank of each of example variety must not change compared to the others across different environments. In other words, the interaction between example varieties and the environment must not be significant.

Current situation in the Test Guidelines

5. When UPOV comprised only a few member States, only a small number of countries had a specific interest in the new or revised Test Guidelines for a particular crop or species. The preparation of the draft Test Guidelines included a significant amount of time to define the set of example varieties, including exchange of data, comparison of descriptions on a common set of potential example varieties and ring-tests to determine the best varieties with a broad consensus. That was already difficult and was not always achievable.
6. With the expansion of UPOV membership to cover all continents, this kind of approach became increasingly difficult for the following reasons:

(a) The range of variation of a characteristic in a species can be completely different depending on the agro-climatic areas and the breeding programs in the world: frequently only a part of this variability can be grown in certain parts of the world, due to physiological traits. As an example, soybean varieties grown in the Southern hemisphere cover a wide range of earliness and only the earliest ones can be grown in the Northern hemisphere;

(b) The interaction between variety and environment can be very important and leads to very different descriptions of varieties between different locations. As an example, the characteristic “Seasonal type” in wheat observed under cold or warm climates will not produce the same description and the expression of many other characteristics included in the Test Guidelines will be modified. The varieties do not reach a correct development; and

(c) The availability of plant material is increasingly difficult and sometimes impossible to obtain for phytosanitary reasons or due to the variety turnover.

This situation leads to more and more difficulties to determine a common set of example varieties for all characteristics in new or revised Test Guidelines.

7. We can observe that for many UPOV members, specific sets of example varieties are used (see the UPOV Seminar on DUS Testing, held in Geneva, from March 18 to 20, 2010 http://www.upov.int/en/documents/dus_seminar/dus_seminar_index.html) and in some parts of the world, efforts have been made to develop regional sets of example varieties (Rice in Asian countries (see TG/16, Annex “Example Varieties: North East Asia”), Maize in European countries).

PROPOSAL TO IMPROVE THE SITUATION

8. Based on current experience, we observe that generally the sets of example varieties in new or revised Test Guidelines are only partially complete or, when required for asterisk characteristics, only based on proposals made by the Leading Expert. Except for a few characteristics, no systematic efforts are made to check if they are adequate in other UPOV members. Therefore, the question of example varieties might be tackled by another approach.

9. The following points will consider the different steps which must be considered and the solutions which can be adopted:

Firstly: check if example varieties are useful or not for each characteristic.

10. Two elements must be considered to evaluate the necessity to establish a set of example varieties:

(a) The type of expression (QL, QN, PQ) of the characteristic as defined in the General Introduction to the Examination of DUS and Development of harmonized Descriptions of new Varieties of Plants (see document TG/1/3, Chapter 4.4 “Types of Expression of Characteristics”);

(b) The susceptibility of characteristic's expression to environmental effect.

11. In case of qualitative (QL) characteristics and, to a certain extent Pseudo-qualitative (PQ) characteristics, descriptions can be made without any reference to a set of example varieties even if they are not so difficult to obtain. Illustrations, drawings, international references (e.g. color chart) or explanations are generally sufficient to guide the observer. This solution could avoid the need for a list of example varieties, which are not always available for all interested UPOV members, and would save time when developing Test Guidelines.

12. Chapter 8 of the Test Guidelines (Explanations on the Table of Characteristics”) and document TGP/14 “Glossary of Terms Used in UPOV Documents” are useful tools to develop descriptions for these types of characteristics. The development of digital pictures is also available to provide illustrations of levels of expression without indication of the variety name.

13. Recommendations could be made to the drafters of Test Guidelines (Leading Experts) to use these tools as much as possible, including the possibility to refer to a specific paragraph of document TGP/14.

Secondly: refer to regional sets of example varieties

14. For Quantitative (QN) characteristics and some PQ characteristics, we must admit that it is not possible to develop a universal set of example varieties for a characteristic in the Test Guidelines that is applicable for all UPOV members.

15. It must be emphasized that a variety description for quantitative characteristics greatly depends on the location and the time when it is established. A stable set of example varieties for a country or region is a good tool to control the interaction between variety and environment but, at the worldwide level, it is not possible to establish a universal set of example varieties that would be useful and applicable for all interested UPOV members.

16. The UPOV Test Guidelines do not promote real harmonization for quantitative characteristics if sets of example varieties are only used in a few countries.

17. It would be better to promote the development of regional sets of example varieties as already done for certain crops. UPOV could further develop the system of registering these sets with the indication of their origin and the agro-climatic area covered.

18. With such a system, any UPOV member willing to develop a DUS test on a species, or to get more information on a variety description, could refer to the most appropriate set of example varieties according to its own agro-climatic conditions. If no set was available, it could develop its own set according to rules which could be established by UPOV in document TGP/7 “Development of Test Guidelines”.

COMMENTS BY THE TECHNICAL WORKING PARTIES AT THEIR SESSIONS
IN 2010

Technical Working Party for Agricultural Crops (TWA)

19. At its thirty-ninth session, held in Osijek, Croatia, from May 24 to 28, 2010, the Technical Working Party for Agricultural Crops (TWA) considered document TWA/39/18 (see document TWA/39/27 “Report”, paragraphs 55 to 60).

20. The TWA agreed that the matters raised in document TWA/39/18 were of particular importance and that measures to improve the situation should be considered.

21. The TWA agreed that the development of regional sets of example varieties would be an appropriate way to provide members of the Union with useful example varieties. In cases where it was agreed that regional sets of example varieties would be appropriate, it was agreed that the Test Guidelines might be adopted without example varieties, on the basis that regional sets of example varieties would be added at a later stage. The TWA noted that it would be necessary for the relevant members of the Union to share their data and to conduct ring tests in order to develop regional sets of example varieties.

22. It was agreed that the sharing of respective lists of example varieties by members of the Union with other members of the Union would, in itself, provide a valuable source of information and would also provide a valuable step towards harmonization of example varieties by indicating the extent to which example varieties were relevant for different members of the Union.

23. The TWA noted that, as explained in document TGP/7/2 Draft 5, Section 4.1.7, the inclusion of example varieties in individual authorities’ test guidelines was an important means of ensuring that variety descriptions produced in the territory concerned were harmonized as far as possible and agreed that further guidance on that aspect might be useful. It was noted that the use of “calibration books”, containing, for example, example varieties, illustrations and explanations of characteristics, as reported by the expert from the Netherlands, were a very useful means of increasing the harmonization of descriptions produced by DUS experts and by breeders.

24. An expert from the Republic of Korea proposed that the leading experts should provide the measured values for the notes of quantitative characteristics corresponding to the example varieties in their growing conditions, for publication on the UPOV website, in order to help experts from other UPOV members.

Technical Working Party on Automation and Computer Programs (TWC)

25. The Technical Working Party on Automation and Computer Programs (TWC), at its twenty-eighth session, held in Angers, France, from June 29 to July 2, 2010, considered document TWC/28/18 and proposed to amend the wording as follows:

“7. The conditions can be listed as follows:

“(a) Example varieties must be well-known across the member States, [...];

[...]

“(d) Considering a set of example varieties for a characteristic, the rank of each example variety [...]”

26. The TWC noted that a set of example varieties for North East Asia had been published on the UPOV website as an Annex to the Test Guidelines for Rice (see document TWC/28/36 “Report”, paragraphs 38 and 39).

Technical Working Party for Vegetables (TWV)

27. The Technical Working Party for Vegetables (TWV), at its forty-fourth session, held in Veliko Tarnovo, Bulgaria, from July 5 to 9, 2010, considered document TWV/44/18.

28. The TWV agreed that consideration of the suitability of the a regional set of example varieties would need to be considered on a crop-by-crop basis and noted that it might be worthwhile to consider such an approach for some vegetable crops. The TWV agreed with the TWA that the sharing of respective lists of example varieties by members of the Union with other members of the Union would, in itself, provide a valuable source of information and would also provide a valuable step towards harmonization of example varieties by indicating the extent to which example varieties were relevant for different members of the Union. However, it noted that further consideration would need to be given on how to facilitate such an exchange within UPOV. The TWV also agreed with the value of “calibration books”, but noted that observers still needed to compare their observations in order to harmonize descriptions. It also noted the value of digital pictures.

Technical Working Party for Ornamental Plants and Forest Trees (TWO)

29. The TWO, at its forty-third session, held in Cuernavaca, Morelos State, Mexico, from September 20 to 24, 2010 considered document TWO/43/18.

30. The TWO noted that, for Test Guidelines for ornamental varieties, example varieties tended to be developed by the Leading Expert as representative of their own circumstances without particular emphasis on their suitability for all UPOV members. With regard to the development of regional sets of example varieties, the TWO noted that the relevant variety collections for ornamental varieties would not be determined by agro-climatic factors to the same extent as for agricultural crops and, therefore, the benefits of developing regional sets of example varieties would not be as significant. The TWO noted that the example varieties in the Test Guidelines were often no longer available on the market and that the Test Guidelines would need to be revised on a regular basis in order to ensure that the example varieties were readily available. Therefore, the TWO agreed that alternatives to example varieties, such as photographs, illustrations and calibration books should be used as far as possible. With regard to the sharing of calibration books and data on varieties, the TWO agreed that the information in the GENIE database on members of the Union with practical DUS experience for specific plant genera and species provided the best mechanism for DUS experts to obtain relevant information and guidance. The TWO also recalled the importance of cooperation in DUS examination and exchange of DUS reports in minimizing the need for members of the Union to conduct DUS testing for a wide range of genera and species (see document TWO/43/29 Rev. “Report”, paragraphs 41 and 42).

Technical Working Party for Fruit Crops (TWF)

31. The TWF at its forty-first session, held in Cuernavaca, Morelos State, Mexico, from September 27 to October 1, 2010, considered document TWF/41/18 (see document TWF/41/30 Rev. "Report", paragraphs 41 to 44).

32. The TWF noted that the example varieties in the Test Guidelines were often no longer available on the market and that the Test Guidelines would need to be revised on a regular basis in order to ensure that the example varieties were readily available. Therefore, the TWF agreed that alternatives to example varieties, such as photographs, illustrations and calibration books should be used as far as possible. The TWF agreed that the information in the GENIE database on members of the Union with practical DUS experience for specific plant genera and species provided the best mechanism for DUS experts to obtain relevant information and guidance. The TWF also discussed the potential benefits of leading experts providing the measured values for the notes of quantitative characteristics in Chapter 8 of the Test Guidelines.

33. As a potential means of maximizing the information provided by example varieties, the TWF agreed that consideration should be given to indicating the state of expression of example varieties for all characteristics in the Test Guidelines, in a similar way to the information provided for the Regional Set of Example Varieties (North East Asia) in the Annex to the Test Guidelines for Rice (document TG/16/8).

34. With regard to the need to assist applicants in providing accurate information in the Technical Questionnaire, the TWF noted the importance of ensuring that the example varieties were readily available to applicants, but also noted that it would be important that the same measures to minimize reliance on example varieties for authorities be reflected in the Technical Questionnaire. In particular, it agreed that photographs, illustrations and explanations provided in Chapter 8 of the Test Guidelines should be made available in the Technical Questionnaire and suggested that document TGP/7 and Test Guidelines should follow that approach. It also agreed that particular consideration should be given to the suitability of characteristics for inclusion in the Technical Questionnaire and to the possibility for characteristics to be presented in a different way in the Technical Questionnaire to the characteristics in the Table of Characteristics, in a similar approach to the option for color groups in the Technical Questionnaire, as an alternative to the RHS Colour Chart. The expert from the European Union reported that the CPVO had already started to provide the explanations in its Technical Questionnaires for electronic applications. He also reported that the Technical Working Party for Vegetables (TWV), at its forty-fourth session, held in Veliko Tarnovo, Bulgaria, from July 5 to 9, 2010, had agreed that the illustrations for shapes in the form of a grid (see TGP/14/1 Draft 9: Section 2: Botanical Terms: Subsection 2: Shapes and Structures: I. SHAPE page 19, Section 2.1.3 and page 28), should be provided in the Technical Questionnaire for the Test Guidelines for Tomato.

COMMENTS BY THE TECHNICAL WORKING PARTIES AT THEIR SESSIONS
IN 2011

Technical Working Party for Agricultural Crops (TWA)

35. At its fortieth session, held in Brasilia, Brazil, from May 16 to 20, 2011, the TWA considered document TWA/40/18 and noted the comments from the TWPs in 2010. The TWA agreed that, for the time being, it was not necessary to redraft the proposal prepared by an expert from France concerning example varieties (see Annex to document TWA/40/18) and that it would be discussed on the Monday session of the TC in 2012. The TWA recommended that the TC should consider the possibility for national authorities to exchange example varieties. The expert from the Republic of Korea noted that it might be useful to have contact details of the relevant experts.

[End of Annex and of document]